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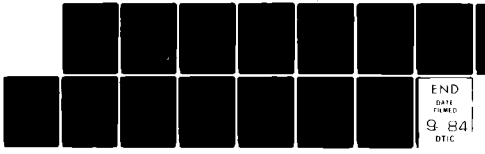

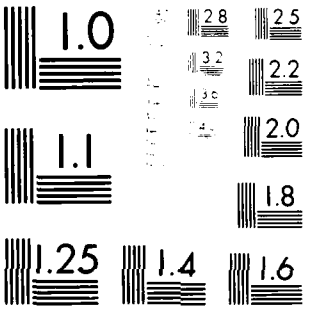

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EVALUATION OF ALTERNATIVE HOUSING PROGRAMS

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EVALUATION OF ALTERNATIVE HOUSING PROGRAMS[1]

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INTRODUCTION

This paper evaluates six housing programs: two supply-subsidy programs (cost reduction and public housing), two rent-regulation programs (Section 8 existing, housing assistance and rent control), and two demand-subsidy programs (housing allowances and unrestricted cash grants). It compares the ability of those programs to (a) improve housing in general, (b) reduce poverty, and (c) improve low-income housing in particular.

Different programs do best on each objective. Giving money to housing (cost reduction) does best on the housing-improvement objective. Giving money to poor people (unrestricted cash grants) does best on the anti-poverty objective. Giving money to poor people and earmarking it for housing (housing allowances) does best on the low-income housing objective.

Although no program does best on all three objectives, if we set aside the pure supply subsidy (cost reduction program) because it does not reduce poverty enough and the pure demand subsidy (cash grant program) because it does not help housing enough, then we find a clear winner among the remaining programs. The housing allowance program does better than the public housing, Section 8 existing, or rent control programs on all three objectives.

This analysis draws upon the extensive housing research sponsored during the last decade by the U.S. Department of Housing and Urban Development; most notably, the Housing Allowance Demand Experiment (see Kennedy, 1980) and the Housing Assistance Supply Experiment (see Lowry, 1983). In particular, it draws upon analyses of production efficiency (Mayo et al., 1980), administrative costs (Kinsley and Schlegel, 1982),

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housing consumption (Mulford et al., 1982; and Rydell and Mulford, 1982), program-induced price increases (Drury et al., 1978; and Rydell and Barnett, 1983), and market behavior (Mayo, 1981; Rydell, 1982; and Rydell et al., 1981).

The paper joins other overviews of what that decade of research revealed--for example: Lowry (1981) and Olsen (1983). Those previous overviews also focused on the tension between the goals of housing improvement and poverty reduction; however, they considered shorter lists of alternative programs (the first omitted cost reduction and rent control, and the second omitted those programs as well as Section 8 existing), and they did not attempt this paper's quantitative explanation of differential program performance.

ALTERNATIVE PROGRAMS

The six programs analyzed by this paper vary greatly in their methods of providing housing and nonhousing assistance, as the following brief descriptions show.

Cost Reduction

A cost reduction program reduces the cost of producing all housing services. In the long run, this cost reduction is passed along to consumers as a reduction in the price of housing services, leading to both increased housing consumption and increased nonhousing consumption (see the Appendix). A property tax decrease is an example of a cost reduction program.

Public Housing

This program builds and operates housing for poor people. The housing is better than what they would have lived in without the program, so their housing consumption increases; and they are charged less rent than they would have paid without the program, so their nonhousing consumption also increases.

Section 8 Existing Housing Assistance

Poor people select their own housing in this program, subject to minimum housing standards and maximum allowed rents. The government then pays part of the rent. The program participants get better housing and have more money left after paying the rent, so they can also increase nonhousing consumption.

Rent Control

This program reduces rents below what they would have been without the program. Rent control laws cause real rent reductions by not allowing rents to rise as fast as general price inflation in the economy. Landlords respond to the revenue reductions by undermaintaining their rental properties. The result is an increase in nonhousing consumption of tenants (paid for by the rent reductions) and a decrease in the housing consumption of tenants (resulting from deterioration caused by the undermaintenance).

Housing Allowances

This program gives poor people financial assistance, provided they choose to live in housing that meets minimum standards. The rents they pay are determined by the market in the usual fashion. The minimum standards induce increased housing consumption, and subsidy money left over after paying the rent allows increased nonhousing consumption.

Unrestricted Cash Grants

This program gives poor people financial assistance, without any restriction on the condition of the housing they choose. The increased income is split between increased housing and nonhousing consumption.

PERFORMANCE AS A GENERAL HOUSING PROGRAM

The proportion of program funds going to increased housing consumption equals the product of two ratios: an *efficiency ratio*, giving the proportion of program cost going to program benefits; and an *earmarking ratio*, giving the proportion of program benefits occurring as

housing benefits (see Table 1). Among our six alternative programs, the cost reduction program has the highest efficiency ratio and the highest earmarking ratio. Consequently, it yields the most housing benefits.

The efficiency ratio in the six programs is always less than 1.0 because some program funds go to builders, landlords, and/or administrators rather than to increased consumption by program participants. Builders divert program funds from program participants when they incur excessive production costs. Mayo et al. (1980, Part 2, p. 136), shows that public housing costs twice as much to produce as private housing. That excessive production cost (together with

Table 1

TOTAL HOUSING BENEFITS

Program	Components: Efficiency Ratio $\left(\frac{\text{total benefit}}{\text{total cost}}\right)$	Components: Earmarking Ratio $\left(\frac{\text{housing benefit}}{\text{total benefit}}\right)$	Performance as a General Housing Program $\left(\frac{\text{housing benefit}}{\text{total cost}}\right)$
Supply Subsidies			
Cost reduction	.96	.50	.48
Public housing	.40	.20	.08
Rent Regulation			
Section 8 existing	.55	.18	.10
Rent control	.84	-1.08	-.91
Demand Subsidies			
Housing allowances	.84	.18	.15
Cash grants	.88	.08	.07

SOURCES: Rydell (1982, pp. 3 and 7); Rydell, Mulford, and Helbers (1980, p. 16); Rydell and Mulford (1982, p. 20); and Rydell et al. (1981, p. 129).

NOTE: See the Appendix for the derivation of this table's estimates from the source studies.

administrative costs) reduces the efficiency ratio for public housing to 0.40, the lowest of all six programs.

Landlords divert program funds from program participants when they raise the price at which they sell housing services. Surprisingly, this occurred in the Section 8 existing housing assistance program where rents were regulated, rather than in the housing allowance program where they were not. Perverse incentives in the rent regulations caused the Section 8 price increases. Only landlords with rents below the allowed level permitted their units to join the program, and they then raised their rents to the allowed level (see Rydell, Mulford, and Helbers, 1980). The absence of those perverse rent regulations, a gradual build-up of program-induced demand, and an adequately elastic supply of housing services prevented the housing allowance program from causing significant price increases (see Rydell and Barnett, 1982).

Program administrators divert funds from participants for three reasons. First, to check whether the participants are poor, and hence eligible for the program (in the public housing, Section 8 existing, housing allowance and cash grant programs). Second, to check whether participant's housing meets program standards (in the public housing, Section 8 existing, and housing allowance programs). Third, to check whether rents paid by participants satisfy program rules (in the Section 8 existing and rent control programs).

The earmarking ratio is also always less than 1.0 for the six programs, indicating that some benefits to participants always occur as nonhousing consumption rather than as housing consumption. The earmarking ratio is 0.5 for the cost reduction program because for that program it equals the price elasticity of demand (see the Appendix to this paper). Mayo's (1981) literature review found estimates of the price elasticity of housing demand varying from 0.17 to 1.28, clustered around a central tendency of 0.50. Note that even if the extreme low point of that range (0.17) were used as the earmarking ratio for the cost reduction program in Table 1, that program would still be ranked highest as a general housing program.

The rent control program has a negative earmarking ratio because the program actually causes housing consumption to decrease. Rent reductions for tenants induce undermaintenance by landlords, which results in housing deterioration (see Rydell et al., 1981, or Rydell and Neels, 1982).

The earmarking ratio is low for the unrestricted cash grant program because there it equals the marginal propensity of low-income households to spend additional income on housing. That marginal propensity is very small because housing is a necessity that is bought with one's first dollars: low-income households typically spend 40 to 50 percent of their total income on housing (see Mulford et al., 1982, p. 23). Additional dollars are therefore mostly spent on nonhousing consumption (see Rydell and Mulford, 1982, p. 15).

Requiring that program participants occupy housing that meets minimum standards makes the earmarking ratio larger than the marginal propensity to consume housing. Our analyses indicate that the housing standards required by federal housing assistance programs (public housing, Section 8 existing, and housing allowances) cause the earmarking ratio to be more than double that in the unrestricted cash grant program (see Rydell and Mulford, 1982).

PERFORMANCE AS AN ANTI-POVERTY PROGRAM

The proportion of program funds going to the poor equals the product of the *efficiency ratio*, just discussed, and a *targeting ratio*, giving the proportion of program benefits that go to poor people (see Table 2). That ratio is essentially equal to 1.0 for the public housing, Section 8 existing, housing allowance, and cash grant programs because only poor people are allowed to participate in the programs. In contrast, a cost reduction program (for example, one based on property tax decreases) benefits all households, and a rent control program benefits all renters, regardless of their income. So, only a fraction of those programs' benefits goes to poor people.

A combination of second highest efficiency ratio and the highest possible earmarking ratio makes the unrestricted cash grant program the best anti-poverty program among our six alternatives. Cash grants beat

Table 2

TOTAL BENEFITS TO POOR PEOPLE

Program	Components: Efficiency Ratio (total benefit / total cost)	Components: Targeting Ratio (benefit to poor / total benefit)	Performance as an Anti-Poverty Program (benefit to poor / total cost)
Supply Subsidy			
Cost reduction	.96	.19	.18
Public housing	.40	1.00	.40
Rent Regulation			
Section 8 existing	.55	1.00	.55
Rent control	.84	.28	.23
Demand Subsidy			
Housing allowance	.84	1.00	.84
Cash grant	.88	1.00	.88

SOURCE: Table 1 and Lowry (1983, pp. 92-93).

NOTE: Eligibility for the housing allowance program is used as the definition of poverty. In the sites of the Housing Assistance Supply Experiment, 19 percent of all households and 28 percent of renter households were eligible for the program.

housing allowances on this dimension because of lower administrative costs: the cash grant program only checks that participants are poor, while the housing allowance also checks that they live in standard housing.

PERFORMANCE AS A LOW-INCOME HOUSING PROGRAM

The proportion of program funds going to housing benefits for the poor equals the product of all three of our explanatory ratios (see Table 3). The housing allowance program performs best on this criterion.

Table 3

HOUSING BENEFITS TO POOR PEOPLE

Program	Component: Efficiency Ratio ($\frac{\text{total benefit}}{\text{total cost}}$)	Component: Earmarking Ratio ($\frac{\text{housing benefit}}{\text{total benefit}}$)	Component: Targeting Ratio ($\frac{\text{housing benefit to the poor}}{\text{housing benefit}}$)	Performance as a Low-Income Housing Program ($\frac{\text{housing benefit to the poor}}{\text{total cost}}$)
Supply Subsidy				
Cost reduction	.96	.50	.19	.09
Public housing	.40	.20	1.00	.08
Rent Regulation				
Section 8 existing	.55	.18	1.00	.10
Rent control	.84	-1.08	.28	-.25
Demand Subsidy				
Housing allowance	.84	.18	1.00	.15
Cash grant	.88	.08	1.00	.07

SOURCE: Tables 1 and 2.

Although the absolute performance of the housing allowance program on this criterion is not impressive (only 15 percent of program funds go for increased housing consumption by the poor), its relative performance is dramatic! The housing allowance program helps low-income housing half again as much as the cost reduction on Section 8 existing housing assistance programs and twice as much as the public housing or cash grant programs.

The primary reasons why other programs deliver less housing benefits to the poor than the housing allowance program are conveniently summarized by the explanatory factors in Table 3. The cost reduction

program has a low targeting ratio. The public housing and Section 8 existing housing assistance programs have low efficiency ratios. Finally, the rent control program and the cash grant program have low earmarking ratios. In contrast, the housing allowance program has high efficiency and targeting ratios and an intermediate earmarking ratio.

CONCLUSIONS

Each of our three evaluation criteria points to a different program as best. Cost reduction is overwhelmingly best for generating overall housing benefits, cash grants are best for delivering general benefits to the poor, and housing allowances are best at delivering housing benefits to the poor (see Table 4).

Note, however, that the housing allowance program is always at least second best. It is a distant second best at generating overa housing benefits and a close second best at delivering benefits to the poor.

Table 4

PERFORMANCE OF ALTERNATIVE HOUSING PROGRAMS

	Percent of Program Dollars		
Program	Total Housing Benefits	Total Benefits to The Poor	Housing Benefits to The Poor
Supply Subsidy			
Cost reduction	48	18	9
Public housing	8	40	8
Rent Regulation			
Section 8 existing	10	55	10
Rent control	-91	23	-25
Demand Subsidy			
Housing allowance	15	84	15
Cash grant	7	88	7

SOURCE: Tables 1, 2, and 3.

Moreover, the housing allowance program completely dominates the public housing, Section 8 existing housing assistance, and rent control programs: it performs better on all three criteria than each of those other programs (again, see Table 4).

Setting the dominated programs aside leaves three programs: cost reduction, housing allowances, and cash grants. Table 5 shows how our criteria rank those programs. Note that the first two criteria, total housing benefits and total benefits to the poor, yield exactly opposite rankings. Note also that the third criterion, housing benefits to the poor, yields yet a third ranking. Such inconsistent rankings may account for the continuing debate over national housing policy, even though great progress has been made during the last decade on understanding the consequences of alternative housing programs.

Table 5

RELATIVE PERFORMANCE OF UNDOMINATED ALTERNATIVE HOUSING PROGRAMS

Program	Total Housing Benefits	Total Benefits to the Poor	Housing Benefits to the Poor
Cost reduction	Best	Worst	Middle
Housing allowances	Middle	Middle	Best
Cash grant	Worst	Best	Worst

SOURCE: Table 4.

Appendix

CHANGES IN HOUSING AND NONHOUSING CONSUMPTION CAUSED BY HOUSING PROGRAMS

This appendix discusses the sources of Table 1 in the text. That table contains efficiency ratios (proportions of program funds that become program benefits instead of going to builders, landlords, or administrators) and earmarking ratios (proportions of program benefits occurring as increased housing consumption). We compute those ratios using the distribution of program funds reported in Table A.1. The estimates for the public housing, housing allowance, and cash grant programs come directly from Rydell and Mulford (1982, p. 20). The estimates for the cost reduction, Section 8 existing housing assistance, and rent control programs come from the other sources listed in the table, as explained in the remainder of this appendix.

COST REDUCTION PROGRAM

The demand curve for housing services can be written as

$$p = -(1/S)q \ , \qquad (A.1)$$

where p = percent change in the price of housing services,

q = percent change in the quantity of housing services consumed, and

S = price elasticity of demand (percent decrease in demand per 1 percent increase in price).

The supply curve for housing services, as modified by a cost reduction program, can be written as

$$p = -(1/Y)q - c \ , \qquad (A.2)$$

where c = percent reduction in supply cost per unit of output, and

Y = price elasticity of supply (percent increase in supply per 1 percent increase in price).

Table A.1

DISTRIBUTION OF HOUSING PROGRAM FUNDS

Program	Percent Distribution of Program Dollars			
	Benefits to Consumers		Builders, Landlords, and Administrators	Total
	Housing	Nonhousing		
Supply Subsidies				
Cost reduction	48	48	4	100
Public housing	8	32	60	100
Rent Regulation				
Section 8 existing	10	45	45	100
Rent control	-91	175	16	100
Demand Subsidies				
Housing allowances	15	69	16	100
Cash grants	7	81	12	100

SOURCE: Rydell (1982, pp. 3 and 7); Rydell, Mulford, and Helbers (1980, p. 16); Rydell and Mulford (1982, p. 20) and Rydell et al. (1981, p. 129), as explained in this appendix.

NOTE: The housing benefit to consumers is the change in their housing consumption, as measured by the change in the market rent of their housing. The nonhousing benefit to consumers is the change in their nonhousing consumption, as measured by the change in the difference between income and actual rent paid for housing. Total benefit to consumers is the sum of housing and nonhousing benefits. Builders, landlords, and administrators receive the difference between total program costs and total benefits.

Solving for the quantity and price changes as functions of the cost change yields

$$q = [SY/(Y + S)]c \qquad (A.3)$$

$$p = -[Y/(Y + S)]c \ , \qquad (A.4)$$

which can easily be transferred into the proportion of total subsidy going to housing,

$$q/c = SY/(Y + S) \ , \qquad (A.5)$$

and the proportion of total subsidy going to nonhousing (via reductions in money spent on housing and hence increases in money spent on nonhousing consumption),

$$-(p + q)/c = (Y - SY)/(Y + S) \ . \qquad (A.6)$$

Evaluating Eqs. (A.5) and (A.6) using the estimates S = 0.5 and Y = 11.3 (from Rydell, 1982, pp. 3 and 7) shows us that .48 of a program dollar goes to housing consumption, .48 of a program dollar goes to nonhousing consumption, and .04 of a program dollar is lost due to the less than perfectly elastic supply of housing services.

Note that the cost reduction program's efficiency ratio (total benefits as a fraction of total cost) depends on both the price elasticity of demand and the price elasticity of supply,

$$\text{efficiency ratio} = \frac{SY}{Y+S} + \frac{Y-SY}{Y+S} = \frac{Y}{Y+S}, \qquad (A\text{-}7)$$

while the program's earmarking ratio (housing benefits as fraction of total benefits) simply equals the price elasticity of demand,

$$\text{earmarking ratio} = \frac{\frac{SY}{Y+S}}{\frac{SY}{S+Y} + \frac{Y-SY}{Y+S}} = S. \qquad (A.8)$$

SECTION 8 EXISTING HOUSING ASSISTANCE PROGRAM

Rydell, Mulford, and Helbers (1980, p. 16) concluded that the Section 8 existing housing assistance program caused a 26 percent increase in the average price program participants pay for housing services. That price increase diverted 34 percent of the money that otherwise would have gone to program participants to their landlords (the 26 percent price increase becomes a 34 percent diversion because the program's rent subsidy is, on average, smaller than the preprogram rent). Other than that diversion, we assume that the Section 8 existing housing assistance program has the same characteristics as the housing allowance program (16 percent of program funds go for administration, and the ratio of housing to nonhousing benefits is the same as 15/69). The result is our estimate that 45 percent of program funds go to landlords or administrators, 16 + .34 (100 - 16) = 45, that 10 percent goes to housing benefits, (15/(15 + 69))(100 - 45) = 10, and that 45 percent goes to nonhousing benefits, 100 - 45 - 10 = 45.

RENT CONTROL PROGRAM

The level of benefits to tenants and costs to landlords varies greatly with the type of rent control law adopted. However, the ratio of benefits to costs is reasonably stable across alternative laws. Total benefit to tenants equals rent reduction less administrative costs paid by tenants less losses in housing services due to deterioration caused by undermaintenance. Total cost to landlords equals revenue losses plus administrative costs paid by landlords less savings in maintenance expenditures due to undermaintenance.

Rydell et al. (1981, p. 129, top panel of table) estimates that the ratio of tenant benefits to landlord costs, so defined, is 0.84. The 16 percent of landlord costs that do not become tenant benefits are lost partly due to administrative costs and partly to the inefficiency of producing housing services while undermaintaining housing capital.

Deterioration of rent controlled housing causes housing consumption to decrease under a rent control program. The cited study estimates that the market value of housing services lost due to deterioration (averaged over an estimated 12-year life of the rent control law) is about half of the total rent reduction received by the average tenant. In other words, the change in housing consumption caused by rent control is negative with an absolute value about half the change in nonhousing consumption. Our specific estimates are that the loss in housing consumption equals 91 percent of landlord cost and that the gain in nonhousing consumption equals 175 percent of landlord costs.

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